（if a English version is needed, please let me know）

□□□□□□□□□□□□□□□

□□ □□□　email: gulifan@hotmail.com

□□□□

□□

□□□

□□□Turing Test □□

□□□

□□□

□□

□□□ Nature □□

□□□□□□□□□□□□□□□

□□□

□□□□□□□□□□□□□□□□□□□□□□ [1]□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□

□□□

□□□

...integrity...

...

[heading]

...

...integrity...

...Ibn al-Haytham...

Isaac NewtonMathematical Principles of Natural Philosophy，Philosophiae Naturalis Principia MathematicaI do not define time, space, place and motion, as being well known to all，Nam tempus, spatium, locum et motum ut omnibus notissima non definio.」[2]

□□

□□
□□

□□

□□
□□

□□
□□□

□□
□□□

□□
□□
□□□□□□□□□□

□□□

□□
□□
□□□□□□□□□□

□□
□□□□□

□□
□□□□□□□□□□□□□□□□□□□

□□□□□□□□□□□□□□□□□□

□□□

□□

□□□
□□□□□

□□
□□
□□

□□
□□

□□□□□+□□□□□□□□□□□□□□□□□□□□□□□

□□□

□□

□□

□□□ Sheldon Glashow □□ Dept. of Physical Philosophies and Mathematics □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ Dept. of Physics □□

□□□

□□

□□□

□□□

□□□□□□□□□□□□

□□□ 17x17 □□□□□

□□□

□□□ game □□□

□□□ AlphaGo Zero □□□□□□□□

□ 19x19 □□ game□□ game □□□□□□□□□□□□□□□□□□□□□□□□□ game □□□□□□□□□□□□□□□□□□□□□□□□ game□□□□□□□□□□□□□□□□□□□□□□□

□□

□□

1) □□□ AlphaGo Zero □ superhuman □□

□□

□□ superhuman □□□

2) □□ Chinese room argument □□□

3) □□ The Selfish Gene (The Immortal Gene) □□□□□□□□□□□

□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□□□□□□

□□□

□□

□□□

□□□□□□□□□□□□□□□□□□□□ word-embedding vector space□knowledge graph□□

□□□□□□□□□□□□□□"□□□□"□□□+□□□+□□□

□□□

...Technological Singularity...AlphaGo Zero...superhuman...Quantum Supremacy...

...1000...

...20...

...1...

...200...10%...1%...2...

 BRAIN Initiative

AlphaGo Zero 的 **Superhuman** 到 Quantum Supremacy

 Nature

AlphaGo Zero 在 Nature superhuman [3]。AlphaGo gameAlphaGo Zero

 gameNature Quantum Supremacy [4]。

 Shor's algorithm Quantum Supremacy。

 qubit NISQ（noisy intermediate-scale quantum）。

Quantum Supremacy Sycamore NISQ 的 noise noise noise。

 Sycamore AlphaGo Zero

Quantum Supremacy noise

 Sycamore Sycamore 200 10000

 Quantum Supremacy 和 NISQ John Preskill [5]。

 Quantum Supremacy Quantum Supremacy Quantum Supremacy 的 Nature

Quantum Supremacy optimization 和 machine learning NISQ 的 noisy Sycamore

 noisy

□□

□□

□□ Quantum Supremacy□□□□□□□□□□

Nature □□□□□□ Superhuman □ Quantum Supremacy □□□

□□

□□□□□□□□□ tensor □□□

AlphaGo Zero □ Superhuman □ Quantum Supremacy □□□□□□□□□□□□□□□□□□□□"□□"□□□□□□□□□□□□□□□□□□□□□□

□□

□□□□□□□□□□□□□□□□

□□□"□□□□"□"□□□□"□□□□□□□□□□

□□

□□□□□□□□□□□□Académie française□□□

□□

□□

□□□

□□□

Superhuman □ Quantum Supremacy □□□□ phrase □□□

□□□

□□□

□□

□□□□□□□□□□□□□

2012 □□□□□□□□□□□□□□□□□ the Rape of Nanjing □□□□□□□□□□□□□□□□□

□□□□□□□□□ 2017 □□□□ AlphaGo Zero □ superhuman □□□□□□□□ 2019 □□□□ Quantum Supremacy □□□□□

□□□□ 1994 □□□□□Forrest Gump□□□

□□□□□ 737 Max □□□□□□□□□□□□□□□□□□□□□□□□□□□□"□□□□□□□□"□□□ Forrest Gump □□

□□□□□ Forrest Gump □□□□□□□□□□□□□□□ polymath□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□polymath □□□ 1994 □□□□□□□□□□□□□□□□□□□□□□□□□□

□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ Forrest Gump □□□ polymath □□

□□□□□□Forrest Gump□□□

□□

□□□integrity□□□□□□□□□

□□□□□

□□□

□□□

□□

□□

□□□

□□

~~~~~~~~~~~~

[1] Dialogo sopra i due massimi sistemi del mondo (Dialogue Concerning the Two Chief World Systems), Galileo Galilei, published in 1632.

[2] Philosophiæ Naturalis Principia Mathematica (Mathematical Principles of Natural Philosophy), Isaac Newton, published in 1687.

[3] Mastering the game of Go without human knowledge, Silver D., Schrittwieser J., Simonyan K. et al, published in Nature, on 18 October 2017: https://www.nature.com/articles/nature24270.

[4] Quantum supremacy using a programmable superconducting processor, Arute F. et al, published in Nature, on 23 October, 2019: https://www.nature.com/articles/s41586-019-1666-5

[5] https://www.quantamagazine.org/john-preskill-explains-quantum-supremacy-20191002/.